

Water Temperature

Topic: Water

Objectives: Determine water temperature

Grade Level: all (early grades will need adult help with measurements and handling the thermometer.)

Time: 10 – 15 minutes

Materials: thermometers, clock or watch, string, strong rubber bands, writing pads, pens or pencils

Location: Lake Clara Meer, Clear Creek

Background: Bodies of water have different characteristics. Color, flow, smell, shape, temperature, turbidity, and acidity are some of the characteristics of water. In this activity you will use a thermometer to measure the temperature of Lake Clara Meer or Clear Creek.

Advance Preparation: Tie one end of a piece of string to the end of the thermometer and tie the other end to the rubber band.

Procedure:

1. Hold the end of the thermometer opposite the bulb tightly and shake the thermometer several times. Note the temperature reading.
2. Slip the rubber band around your wrist so that you do not drop the thermometer in the water.
3. Immerse the bulb of the thermometer in the water. Hold it there for three to five minutes.
4. Lift the thermometer and quickly read the temperature. Record the water temperature.
5. Repeat this procedure or have another student repeat it. Compare your measurements. If they differ by more than one degree, try the experiment a third time to be sure you have not made a mistake.
6. Take the water temperature at the water surface, and at different depths below the surface. Record the results at the different depths.

Vocabulary:
temperature
thermometer
bulb
characteristic
hypothesize

Questions to think about and discuss:

1. Review the water temperature data you collected. From the water temperature chart, what can you hypothesize about the plant and animal life in Lake Clara Meer or Clear Creek?

Water Temperature Chart

Below 12° C (55° F)	12 - 20° C (55-68° F)	Above 20° C (68° F)
cold water fish , little fish disease, low plant life	fish, some fish diseases, some plant life	warm water fish, many fish diseases, abundant plant life

2. What do you think might affect the temperature of the water today? How might it be different if the water temperature was measured on a different day, or at a different place in Lake Clara Meer or Clear Creek?
3. How does today's water temperature compare to today's air temperature? When might the water temperature be colder than the air temperature? When might it be warmer? Why would they differ?
4. Your body temperature stays normally at about 37° C (98.6° F). What temperature do you suppose is the normal temperature of a fish's body in this lake or stream? What would happen to the fish's body temperature on a different day?
5. How does the water temperature compare at different depths below the surface? What do you suppose accounts for these differences?